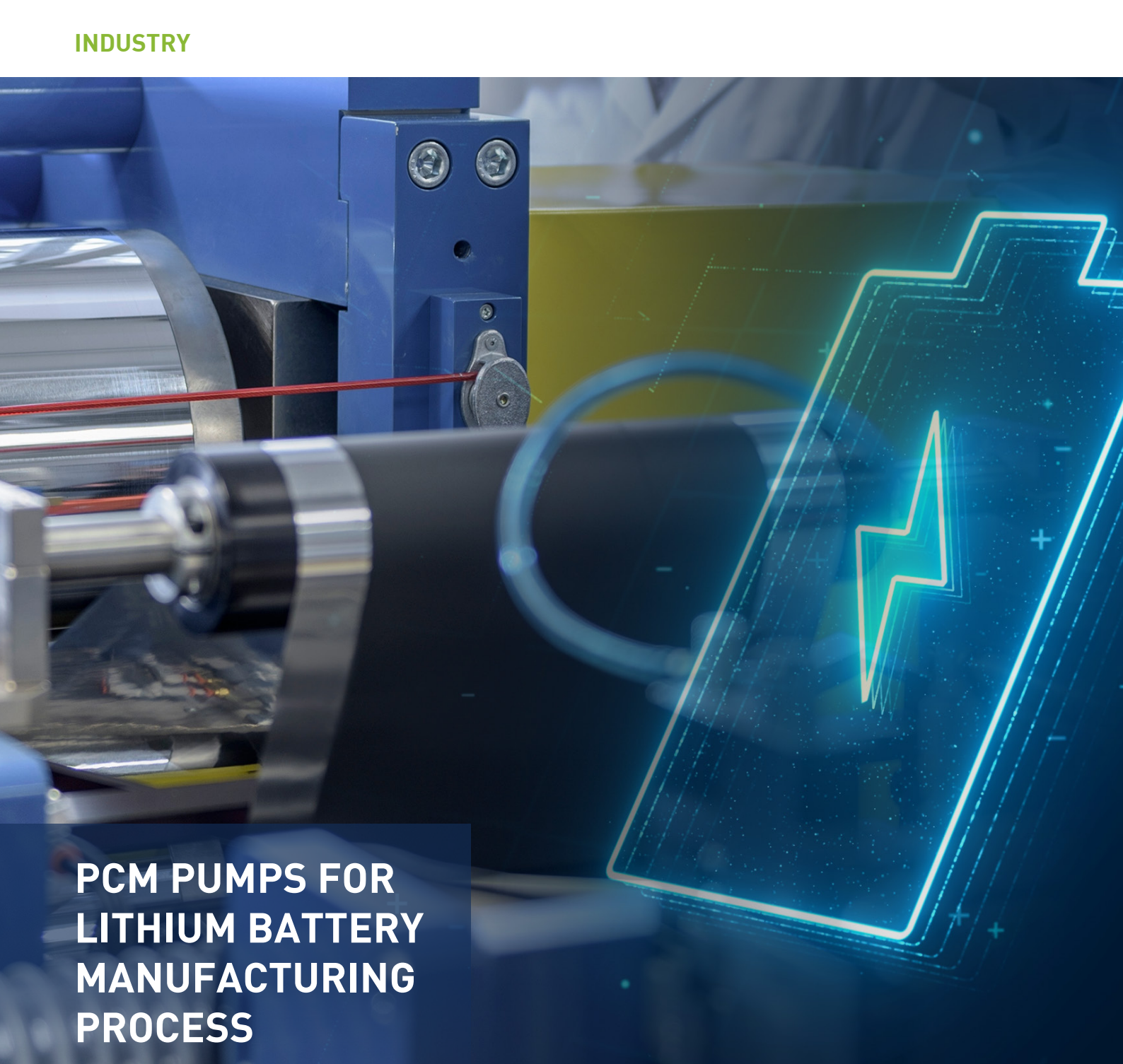


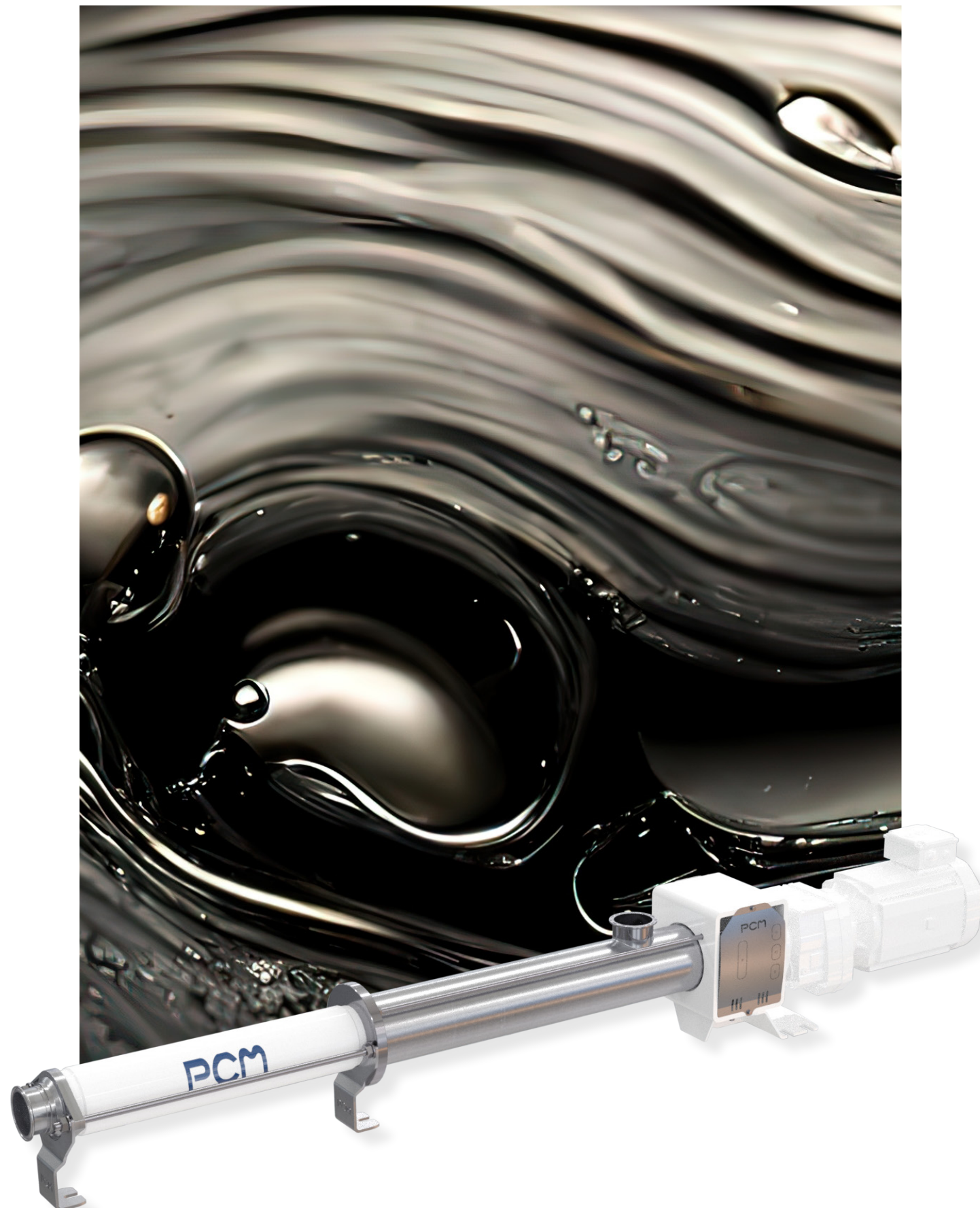
The background image shows industrial machinery, likely a pump or roller, with a blue frame and metallic components. A red line is visible, possibly a wire or fluid path. Overlaid on the right side is a glowing blue battery icon with a lightning bolt symbol inside, surrounded by a grid of dashed lines and small plus signs, suggesting a high-tech or digital theme.

## PCM PUMPS FOR LITHIUM BATTERY MANUFACTURING PROCESS

[www.pcm.eu](http://www.pcm.eu)

**PCM**

keep it moving



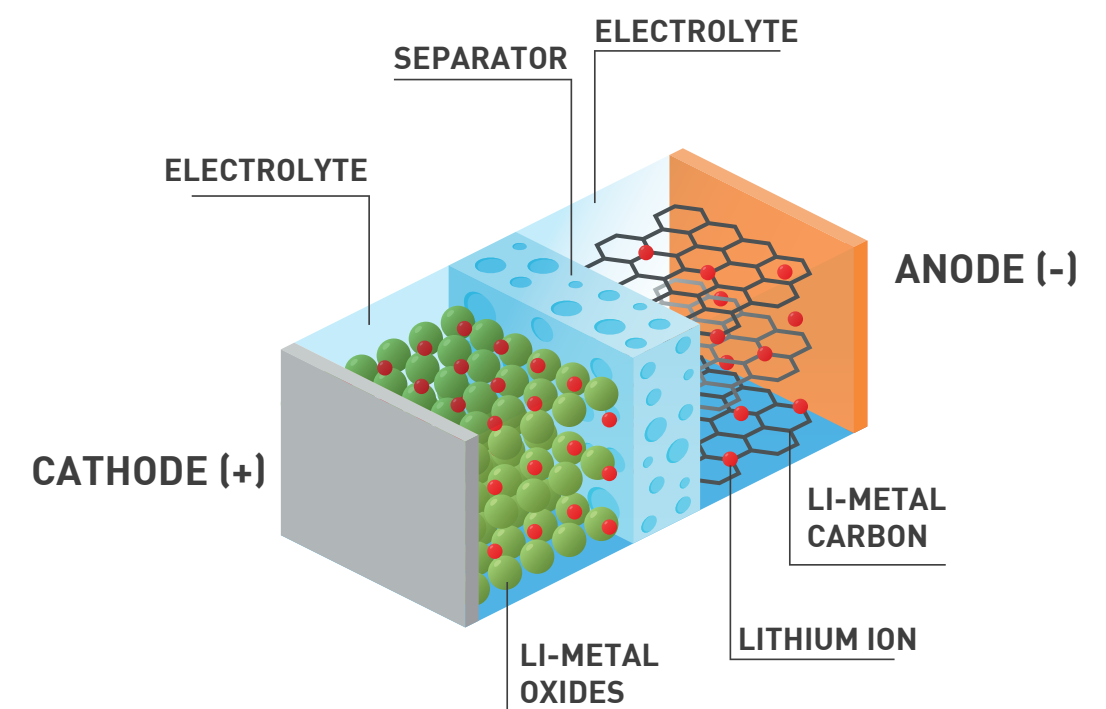
Lithium global demand is constantly increasing for few years and this increase should be even stronger in the coming years. Main part of lithium consumption is linked to manufacture battery used in the portable equipment sector (phone, laptop, tools...), in renewable energies storage and electric transports (bikes, cars, scooters).

Despite their high costs (compared to other battery technologies), Lithium-ion batteries are used for their performances and their long life. They are composed of :

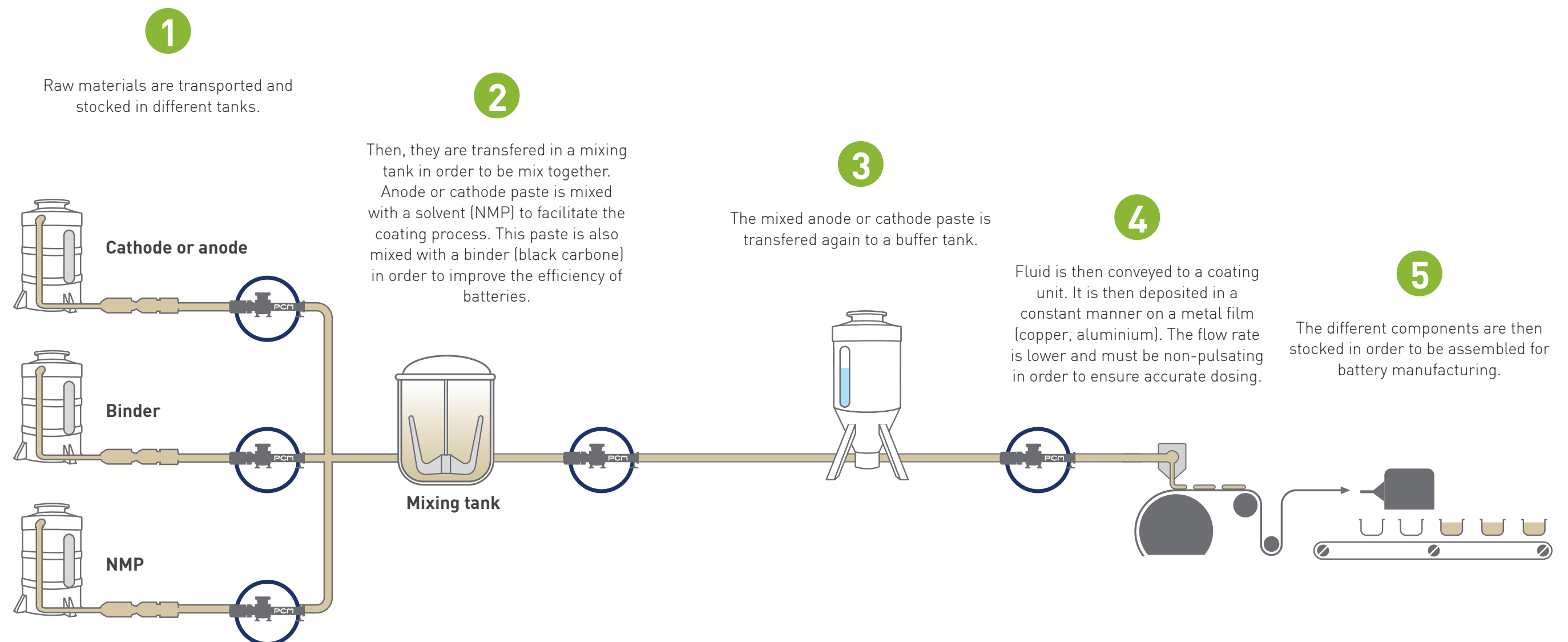
- **Electrode (anode or cathode)** : these are collectors on which lithium inks are coated.
- **Separators** : microporous polyolefin films (polymers) positioned between cathode and anode of the batteries.
- **Electrolyte** : non-aqueous or aprotic solutions (which cannot contain or donate electrons). Most of time, they are lithium salts dissolved in dimethyl, ethylene, or diethyl carbonate (organic solvents)

The quality and purity of the materials used combined with an optimal chemical composition will give the lithium battery the best possible range and performance.

**PCM pumps** are therefore perfectly suited **to transfer viscous and fragile fluid, and they totally respect quality and characteristics of fluids. Our pumps produce very low shear and operate without pulsation.** They are suitable for a **wide range of processes**, particularly those requiring **consistency and precision, such as the dosing and coting of lithium solutions.**



## PCM AT THE HEART OF THE BATTERY MANUFACTURING PROCESS



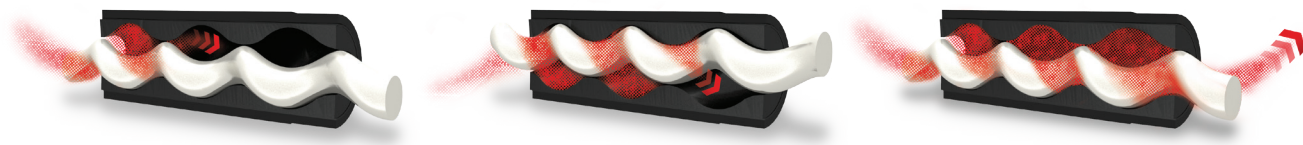
## PCM TECHNOLOGIES

PCM provides a wide range of positive displacement pumps, designed to meet your needs whatever industry you are working in.

### PRINCIPLE OF THE TECHNOLOGY MOINEAU™

A Moineau™ pump consists of a helical rotor turning into a helical stator. When the rotor turns inside the stator, the honeycomb progresses spirally along the axis of the pump without changing either shape or volume. This action transfers the product from the pump suction to the pump discharge without degrading the product.

This basic principle of Moineau™ pumps allows a high accuracy of flow and pressure, making these pumps extremely efficient for transferring and dosing the most complex fluids.



PCM Moineau™ pumps are configurable to perfectly fit to the multiple applications proposed by their users. From the choice of the elastomers of their stator, to the coating of their rotor, through the choice of the types of dynamic seals of their drive, but also many other options, each PCM Moineau™ pump is modular and thus meets all constraints.

### BENEFITS

- Preserves the texture of fragile fluids (no shearing compared with lobe or centrifugal technologies)
- Handles fluids with solids
- High suction capability
- Self-priming
- Constant non-pulsating flow
- Reversible

### PRINCIPLE OF TECHNOLOGY PCM DELASCO™

The peristaltic pumping principle is based on the capacity of a soft elastomer hose to accept a deformation and subsequently recover its initial shape. Peristaltic pumps are provided with either high- or low-pressure hoses, covering a wide range of applications which need versatility and flexibility. PCM Delasco™ pumps are robust, allowing them to transfer very abrasive and corrosive products while being accurate for the measurement of various binders and additives as well as for dosing.



For applications requiring the handling acidic components, only the hose is in contact with the fluid. No metallic parts (copper, zinc, nickel) are exposed with the pumped product. In order to increase the protection of the pump, the body contains a lubricant which reduces friction to ensure performance and minimize maintenance.

### BENEFITS

- Media purity (only one wearing part: the hose)
- Gentle pumping action
- No metallic parts (copper, zinc, nickel) in contact with the fluid
- Self-priming
- Low life cycle costs
- No mechanical seals, valves or gaskets

# PCM ECOMOINEAU™ LX

## Pump construction

Its revolutionary design combines the legendary performance and reliability of PCM Progressing Cavity Pump technology with a highly modular, eco-friendly design. The EcoMoineau™ LX pump requires less space for installation which reduces costs and makes it easy to integrate into your system (or process). The EcoMoineau™ LX pump is shorter and uses 10% less power than most progressing cavity

pumps on the market. The energy used to manufacture, transport and operate the EcoMoineau™ LX pump is therefore optimized. This PCP is made with fewer parts compared to competitors models. This new stainless-steel pump has many design features that makes installation, operation and servicing easier than ever before.



### ECO-DESIGN PUMP

- 10% less power consumption compared to most Progressing Cavity Pump's on the market
- Less raw materials

### EASY AND QUICK DISMANTLING

- The seal can be changed by simply disconnecting the drive
- Removal of the shaft line (rotor, connecting rod, drive shaft) without dismantling the piping

